

weather during March, and also the cold and wet which prevailed during April in the same year: secondly, the sudden rise of temperature, amounting to  $21^{\circ}$  of Fahr., which occurred in a few hours on the 26th of April: and thirdly, the continuance, through May, of extreme vicissitudes of temperature between the day and the night; the burning heat of the days and the cold thick fogs, with easterly winds, commencing generally about sunset, and prevailing during the night.

A paper was also read, entitled, "Report of a remarkable appearance of the Aurora Borealis below the Clouds." By the Rev. James Farquharson, LL.D., F.R.S., Minister of Alford.

The phenomenon recorded in this paper occurred on the night of the 24th of February 1842, when a remarkable aurora borealis was seen by the author apparently situated between himself and lofty stratus clouds, which extended in long parallel belts with narrow intervals of clear sky in a direction from north-west to south-east. The author gives, in detail, the particulars of his observations.

---

April 21, 1842.

WILLIAM THOMAS BRANDE, Esq., V.P., in the Chair.

The following papers were read:—

1. "On the Organic Tissues in the bony structure of the *Coralidæ*." By J. S. Bowerbank, Esq. Communicated by Thomas Bell, Esq., F.R.S., was in part read.

"Papers from the several Magnetic Observatories established in India, addressed to the Secretary of the Royal Society, by direction of the Honourable East India Company." Communicated by P. M. Roget, M.D., Sec. R.S.

1. From the Magnetic Observatory at Madras:—

Magnetic and Meteorological Observations for October, November and December 1841; as also for January 1842.

Term-day Observations for October and November, and Curves for August, September, October and November 1841.

Observations of the Direction and Force of the Wind, and the state of the Sky, during October and November 1841.

Extraordinary Magnetic Curves for September, October and December 1841.

2. From the Magnetic Observatory at Singapore:—

Magnetic Observations from March to October, 1841, with Curves for the same period.

Anemometer Curves for March, April, May, June, July, August, September and October 1841.

Abstracts of the Weather for June, July, August and September 1841; as also the Determination of the Temperature at Singapore.

Tide Reports for April, May and June 1841.

3. From the Magnetic Observatory at Simla:—

Abstracts of Magnetic and Meteorological Observations for November and December 1841.

Magnetic Observations for February, May, October and December 1841, with Curves for the same period.

---

April 28, 1842.

FRANCIS BAILY, Esq., V.P., in the Chair.

A paper, entitled, "On the Organic Tissues in the bony structure of the Corallidae." By J. S. Bowerbank, Esq., F.G.S., communicated by Thomas Bell, Esq. F.R.S., was resumed and concluded.

The author submitted small portions of nearly seventy species of bony corals to the action of diluted nitric acid, and thus obtained their animal tissue, freed from calcareous matter, and floating on the surface of the fluid in the form of a delicate flocculent mass. By the aid of the microscope, this mass was found to be pervaded by a complex reticulated vascular tissue, presenting numerous ramifications and anastomoses, with lateral branches terminating in closed extremities. There were also found, interspersed among these, another set of tubes, of larger diameter than the former, and provided, in many places, with valves; the branches from these larger vessels occasionally terminate in ovoid bodies, having the appearance of gemmules or incipient polypes. In other cases, masses of still larger size, of a more spherical shape, and of a brown colour, were observed attached to the membrane, and connected with each other by a beautiful network of moniliform fibres. Numerous siliceous spicula, pointed at both extremities and exceedingly minute, were discovered in the membranous structure of several corals; and also other spicula of larger size, terminated at one extremity in a point, and at the other in a spherical head; a form bearing a striking resemblance to that of a common brass pin.

Besides these spicula, the author noticed in these membranous tissues a vast number of minute bodies, which he regards as identical with the nuclei of Mr. Robert Brown, or the cytoplasm of Schleiden.

A paper was also in part read, entitled, "Sixth Letter on Voltaic Combinations," addressed to Michael Faraday, Esq., D.C.L., F.R.S., &c. By John F. Daniell, Esq., For. Sec. R.S., Professor of Chemistry in King's College, London, &c.